Notice of Allowability	Application No. 09/662,396	Applicant(s) VEDULA ET AL.	
	Examiner Blaine Basom	Art Unit 2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *a communication received from the Applicants' Attorney, John Ling, on 8/25/2004*.

2. ☒ The allowed claim(s) is/are *11-14,18-22,25-30,32-38,51-55,59-63,66-68,70-76,86 and 88-91*.

3. ☒ The drawings filed on *14 September 2000* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2173

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a conversation with Applicants' Attorney, John Ling, on 8/25/2004.

The claims of the application have been amended to appear as follows, with markings indicating the changed portions:

1-10. (Cancelled)

11. (Currently Amended) A mapping tool graphical user interface, comprising:

a source screen region adapted to display a graphical representation of a source object;

a target screen region adapted to display a graphical representation of a target object;

a mapping screen region that has at least one edge adjacent to each of the source screen region and the target screen region, and adapted to allow a user to create a mapping between the graphical representation of the source object and the graphical representation of the target object using graphical mapping indicia; ~~and~~

a graphical compiler object adapted to allow the user to generate compiled mapping output code using a compiler; and

an output code screen in an output screen region adapted to display the compiled mapping output code, to display a compiler warning, and to allow the user to select the

compiler warning, wherein the mapping region includes a compiler warning indicia adapted to indicate at least one graphical mapping indicia as being associated with the selected compiler warning.

12. (Original) The user interface of claim 11, wherein the source and target objects comprise at least one source node and at least one target node respectively, wherein the compiler is adapted to create a compiler link between the at least one source node and the at least one target node, and wherein the mapping screen region further comprises a compiler link indicia associated with the compiler link.

13. (Original) The user interface of claim 12, wherein the compiler link indicia comprises a dashed line between the at least one source node and the at least one target node.

14. (Original) The user interface of claim 12, wherein the compiler link indicia is adapted to allow the user to select the compiler link indicia and move the compiler link indicia to one of another source node and another target node.

15-17. (Cancelled)

18. (Currently Amended) A mapping tool graphical user interface, comprising:

a source screen region adapted to display a graphical representation of a source object having a source node;

a target screen region adapted to display a graphical representation of a target object having a target node; and

a mapping screen region, located between the source screen region and the target screen region, and adapted to allow a user to create a mapping between the graphical representation of the source object and the graphical representation of the target object using graphical mapping indicia with a graphical link indicia adapted to associate the

target node with the source node, and further adapted to allow a user to select the graphical link indicia and wherein the mapping screen region further comprises a link selection indicia adapted to indicate that the graphical link indicia has been selected; and

a link properties page in a link properties screen region adapted to display a property associated with a link associated with the selected graphical link indicia, and to allow the user to modify the property.

19. (Original) The user interface of claim 18, wherein the graphical link indicia comprises a line in the mapping screen region between the target node and the source node.

20. (Original) The user interface of claim 18, wherein the graphical mapping indicia further comprises a graphical function object, and wherein the graphical link indicia comprises a line in the mapping screen region between two of the target node, the source node, and the function object.

21. (Original) The user interface of claim 20, wherein the mapping screen region is adapted to allow a user to create a link by selecting one of the target node, the source node, and the function object, and selecting another of the target node, the source node, and the function object, and wherein the mapping screen region is further adapted to display a graphical link indicia between the one of the target node, the source node, and the function object, and the another of the target node, the source node, and the function object.

22. (Original) The user interface of claim 20, wherein the mapping screen region is adapted to allow a user to move a link by selecting the line near one of the two of the target node, the source node, and the function object, and moving the line to the other of the target node, the source node, and the function object.

23-24. (Cancelled)

25. (Currently Amended) The user interface of claim 18 ~~24~~, wherein the property comprises a compiler directive, and wherein the link properties page is further adapted to allow the user to select one of flattening, top-down, and bottom-up for the compiler directive.

26. (Original) The user interface of claim 18,

wherein the source object includes a source tree structure having a source root node, a source record node, and a source field node;

wherein the target object includes a target tree structure having a target root node, a target record node, and a target field node;

wherein the field nodes are indented in hierarchical fashion from the record nodes, and the record nodes are indented in hierarchical fashion from the root nodes;

wherein one of the source object tree structure and the target object tree structure comprises a collapse indicia associated with one of a root node and a record node in the one of the source object tree structure and the target object tree structure;

wherein the collapse indicia is adapted to allow a user to collapse and expand the one of a root node and a record node in a hierarchical fashion, and wherein the one of the source object tree structure and the target object tree structure is displayed in one of a collapsed form and an expanded form according to the collapse indicia; and

wherein the graphical link indicia comprises a collapsed link indicia adapted to indicate the association between the target node and the source node when the one of the source object tree structure and the target object tree structure is displayed in the collapsed form.

27. (Original) The user interface of claim 26, wherein the collapsed link indicia is a dashed line.

28. (Original) The user interface of claim 26, wherein the mapping screen region is further adapted to allow a user to select the collapsed link indicia, whereby the one of a root node and a record node is expanded and displayed in expanded form.

29. (Currently Amended) A mapping tool graphical user interface, comprising:

a source screen region adapted to display a graphical representation of a source object;

a target screen region adapted to display a graphical representation of a target object; ~~and~~

a mapping screen region, positioned to have a common edge with each of the source screen region and the target screen region, and adapted to allow a user to create a mapping between the graphical representation of the source object and the graphical representation of the target object using graphical mapping indicia;

wherein the source and target objects comprise at least one source node and at least one target node respectively, and wherein the graphical mapping indicia comprises a function object adapted to associate the at least one target node with the at least one source node; and

a function object palette screen in a function object palette screen region, wherein the function object palette screen includes a plurality of function objects, and wherein the function object palette screen is adapted to allow a user to drag and drop the function object from the function object palette screen onto the mapping screen region using a user interface selection device.

30. (Currently Amended) The user interface of claim 29, wherein the function object is associated with script used by a compiler to generate compiled mapping output code.

31. (Cancelled)

32. (Original) The user interface of claim 29, further adapted to allow a user to select the function object, wherein the mapping screen region further comprises a function object selection indicia adapted to indicate that the function object has been selected.

33. (Original) The user interface of claim 32, further comprising a function object properties page in a function object properties page screen region adapted to display a property associated with the selected function object, and further adapted to allow a user to modify the property.

34. (Original) The user interface of claim 33, wherein the function object properties page is further adapted to allow the user to enter a constant value in the function object properties page.

35. (Original) The user interface of claim 32, further adapted to allow the user to select a plurality of function objects, and wherein the function object selection indicia is further adapted to indicate that the plurality of function objects have been selected.

36. (Original) The user interface of claim 35, further adapted to allow the user to select the plurality of function objects by creating a box around the plurality of function objects using a user interface selection device.

37. (Currently Amended) The user interface of claim 29, wherein the ~~graphical mapping indicia further comprises a user~~ function object is adapted to associate the at least one target node with the at least one source node.

38. (Currently Amended) The user interface of claim 37, wherein the function object is a user function object ~~is~~ associated with user script used by a compiler to generate compiled mapping output code, and wherein the mapping screen region further

comprises a function object creation interface adapted allow the user to create the user script and to associate the user script with the user function object.

39-50. (Cancelled)

51. (Original) In a mapping tool graphical user interface, a method of creating a mapping, comprising:

displaying a graphical representation of a source object including a source tree structure having a source root node, a source record node, and a source field node in a source screen region;

displaying a graphical representation of a target object including a target tree structure having a target root node, a target record node, and a target field node in a target screen region;

creating a mapping between the graphical representation of the source object and the graphical representation of the target object in a mapping screen region located between the source and target screen regions using graphical mapping indicia;

indenting the field nodes toward the mapping screen region in hierarchical fashion from the record nodes; and

indenting the record nodes toward the mapping screen region in hierarchical fashion from the root nodes.

52. (Original) The method of claim 51, further comprising:

selecting a node in one of the source screen region and the target screen region;

displaying a node selection indicia adapted to indicate a selected node in one of the source object tree structure and the target object tree structure; and

displaying a property associated with the selected node in a node properties page in a node properties page screen region;

modifying the property associated with the selected node in the node properties page.

53. (Currently Amended) In a mapping tool graphical user interface, a method of creating a mapping, comprising:

displaying a graphical representation of a source object in a source screen region;

displaying a graphical representation of a target object in a target screen region;

creating a mapping between the graphical representation of the source object and the graphical representation of the target object in a mapping screen region located separate from and adjacent to each of the source and target screen regions using graphical mapping indicia;

displaying the mapping in the mapping screen region; ~~and~~

displaying a graphical compiler object adapted to allow the user to generate compiled mapping output code using a compiler;

displaying an output code screen in an output screen region;

displaying the compiled mapping output code in the output code screen;

displaying a compiler warning in the output code screen;

selecting the compiler warning; and

displaying a compiler warning indicia in the mapping region adapted to indicate at least one graphical mapping indicia as being associated with the selected compiler warning.

54. (Previously Presented) The method of claim 53, wherein the source and target objects comprise at least one source node and at least one target node respectively, further comprising:

creating a compiler link between the at least one source node and the at least one target node using the compiler; and

displaying a compiler link indicia in the mapping screen region associated with the compiler link.

55. (Previously Presented) The method of claim 54, further comprising:

selecting the compiler link indicia; and

moving the compiler link indicia to one of another source node and another target node.

56-58. (Cancelled)

59. (Currently Amended) In a mapping tool graphical user interface, a method of creating a mapping, comprising:

displaying a graphical representation of a source object having a source node in a source screen region;

displaying a graphical representation of a target object having a target node in a target screen region;

creating a mapping between the graphical representation of the source object and the graphical representation of the target object in a mapping screen region positioned between the source and target screen regions using a graphical link indicia in the mapping screen region adapted to associate the target node with the source node; ~~and~~

displaying the mapping in the mapping screen region;

selecting the graphical link indicia;

displaying a link selection indicia adapted to indicate that the graphical link indicia has been selected;

displaying a link properties page in a link properties screen region;

displaying a property associated with a link associated with the selected graphical link indicia in the link properties page; and

modifying the property.

60. (Previously Presented) The method of claim 59, wherein the graphical link indicia comprises a line in the mapping screen region between the target node and the source node.

61. (Previously Presented) The method of claim 59, wherein creating a mapping further comprises displaying a graphical function object, and wherein the

graphical link indicia comprises a line in the mapping screen region between two of the target node, the source node, and the function object.

62. (Currently Amended) The method of claim 61, wherein creating a mapping further comprises:

creating a link including:

selecting one of the target node, the source node, and the function object; and

selecting another of the target node, the source node, and the function object; and

displaying a graphical link indicia between the one of the target node, the source node, and the function object, and ~~the~~ another of the target node, the source node, and the function object.

63. (Currently Amended) The method of claim 61, further comprising moving a link via ~~including~~:

selecting the line near one of the two of the target node, the source node, and the function object; and

moving the line to the other of the target node, the source node, and the function object.

64-65. (Cancelled)

66. (Previously Presented) The method of claim 59, wherein the property comprises a compiler directive, and wherein the link properties page is further adapted to allow the user to select one of flattening, top-down, and bottom-up for the compiler directive.

67. (Currently Amended) In a mapping tool graphical user interface, a method of creating a mapping, comprising:

displaying a graphical representation of a source object with at least one source node in a source screen region;

displaying a graphical representation of a target object with at least one target node in a target screen region;

creating a mapping between the graphical representation of the source object and the graphical representation of the target object in a mapping screen region adjoining both the source and target screen regions using a at least one function object adapted to associate the at least one target node with the at least one source node; ~~and~~

displaying the mapping in the mapping screen region;

displaying a function object palette screen in a function object palette screen region, wherein the function object palette screen includes a plurality of function objects; and

allowing a user to drag and drop the at least one function object from the function object palette screen onto the mapping screen region using a user interface selection device.

68. (Currently Amended) The method of claim 67, further comprising associating the at least one function object with script used by a compiler to generate compiled mapping output code.

69. (Cancelled)

70. (Currently Amended) The method of claim 67, further comprising:

selecting the at least one function object; and

displaying a function object selection indicia adapted to indicate that the at least one function object has been selected.

71. (Previously Presented) The method of claim 70, further comprising:

displaying a function object properties page in a function object properties page screen region adapted to display a property associated with the selected function object; and

modifying the property.

72. (Previously Presented) The method of claim 71, further comprising entering a constant value in the function object properties page.

73. (Previously Presented) The method of claim 70, further comprising selecting a plurality of function objects, wherein the function object selection indicia is further adapted to indicate that the plurality of function objects have been selected.

74. (Previously Presented) The method of claim 73, further comprising selecting the plurality of function objects by creating a box around the plurality of function objects using a user interface selection device.

75. (Previously Presented) The method of claim 67, further comprising displaying a user function object adapted to associate the at least one target node with the at least one source node.

76. (Previously Presented) The method of claim 75, wherein the user function object is associated with user script used by a compiler to generate compiled mapping output code, further comprising:

displaying a function object creation interface in the mapping screen region; and

allowing the user to create the user script and to associate the user script with the user function object.

77-85. (Cancelled)

86. (Currently Amended) A mapping tool graphical user interface, comprising

means for displaying a graphical representation of a source object in a source screen region, wherein the source object comprises a source tree structure having a source root node, a source record node, and a source field node in the source screen region;

means for displaying a graphical representation of a target object in a target screen region, wherein the target object comprises a target tree structure having a target root node, a target record node, and a target field node in a target screen region;

means for creating a mapping between the graphical representation of the source object and the graphical representation of the target object in a mapping screen region positioned adjacent to each of the source and target screen regions using graphical mapping indicia; ~~and~~

means for displaying the mapping in the mapping screen region;

means for indenting the field nodes toward the mapping screen region in hierarchical fashion from the record nodes; and

means for indenting the record nodes toward the mapping screen region in hierarchical fashion from the root nodes.

87. (Cancelled)

88. (Previously Presented) The mapping tool graphical user interface of claim 86, further comprising means for displaying a graphical compiler object adapted to allow the user to generate compiled mapping output code using a compiler.

89. (Previously Presented) The mapping tool graphical user interface of claim 86, further comprising:

means for displaying at least a portion of the mapping in the mapping screen region; and

means for displaying a scrolling indicia in the mapping screen region adapted to allow the user to selectively display portions of the mapping in the mapping screen region.

90. (Previously Presented) The mapping tool graphical user interface of claim 86, further comprising means for displaying a test target object instance according to the mapping in a test screen region.

91. (Previously Presented) The mapping tool graphical user interface of claim 86, further comprising:

means for replacing one of the source and target objects; and

means for preserving at least a portion of the mapping.

Allowable Subject Matter

Claims 11-14, 18-22, 25-30, 32-38, 51-55, 59-63, 66-68, 70-76, 86, and 88-91 are allowed. The following is an examiner's statement of reasons for allowance:

Claim 11, comprising subject matter from cancelled claim 17, is considered allowable for the reasons in which claim 17 was considered allowable, these reasons being expressed in the previous Office Action, mailed 12/18/2003. Particularly, the prior art teaches a mapping tool graphical user interface comprising a source screen region, a target screen region, and a mapping screen region, like those described in claim 11. The prior art also teaches that this interface may comprise an output code screen adapted to display compiler warnings. However, the prior art does not teach that the user may select one of these compiler warnings, whereby the mapping region displays a compiler warning indicia to indicate at least one graphical mapping indicia as being associated with the selected compiler warning.

As claims 12-14 are dependent upon allowed claim 11, and include all of the limitations of claim 11, claims 12-14 are allowed for the reasons in which claim 11 is allowed.

Claim 18, comprising subject matter from cancelled claim 24, is considered allowable for the reasons in which claim 24 was considered allowable, these reasons being expressed in the previous Office Action, mailed 12/18/2003. Particularly, the prior art teaches a mapping tool graphical user interface comprising a source screen region, a target screen region, and a mapping screen region, like those described in claim 18. The prior art discloses that this mapping screen region allows a user to create and select graphical link indicia that associates a target node with a source node, and that such graphical link indicia is indicated in response to its selection. However, the prior art does not teach that the interface comprises a link properties page, wherein the link properties page is adapted to display a property associated with the selected graphical link indicia, and to allow the user to modify the property, as is expressed in claim 18.

As claims 19-22 and 25-28 are dependent upon allowed claim 18, and include all of the limitations of claim 18, claims 19-22 and 25-28 are allowed for the reasons in which claim 18 is allowed.

Claim 29, comprising subject matter from cancelled claim 31, is considered allowable for the reasons in which claim 31 was considered allowable, these reasons being expressed in the previous Office Action, mailed 12/18/2003. In particular, the prior art teaches a mapping tool graphical user interface comprising a source screen region, a target screen region, and a mapping screen region, like those described in claim 29. The use of a function object pallet, such as a toolbar, is also understood to be taught by the

prior art. However, the prior art does not teach the use of such a function object pallet in a mapping tool graphical user interface, where specifically, each of the function objects may be dragged from the pallet onto the mapping screen region, as is expressed in claim 29.

As claims 30 and 32-38 are dependent upon allowed claim 29, and include all of the limitations of claim 29, claims 30 and 32-38 are allowed for the reasons in which claim 29 is allowed.

Claims 51 and 52 are considered allowable for the reasons described in the previous Office Action, mailed 12/18/2003.

Claim 53, comprising subject matter from cancelled claim 58, is considered allowable for the reasons in which claim 58 was considered allowable, these reasons being expressed in the previous Office Action, mailed 12/18/2003. More specifically, the prior art teaches a mapping tool graphical user interface comprising a source screen region, a target screen region, and a mapping screen region, implemented like described in claim 53. The prior art also teaches that this interface may comprise a graphical compiler object and an output code screen adapted to display output code and compiler warnings. However, the prior art does not teach that the user may select one of these compiler warnings, whereby the mapping region displays a compiler warning indicia to indicate at least one graphical mapping indicia as being associated with the selected compiler warning, as is expressed in claim 53.

As claims 54 and 55 are dependent upon allowed claim 53, and include all of the limitations of claim 53, claims 54 and 55 are allowed for the reasons in which claim 53 is allowed.

Claim 59, comprising subject matter from cancelled claim 65, is considered allowable for the reasons in which claim 65 was considered allowable, these reasons being expressed in the previous Office Action, mailed 12/18/2003. Particularly, the prior art teaches a mapping tool graphical user interface comprising a source screen region, a target screen region, and a mapping screen region, implemented like described in claim 59. The prior art also teaches that the user may create a mapping between a source object and a target object using graphical link indicia in the mapping screen region, and that the user may select such graphical link indicia, whereby the indicia is indicated in response to its selection. However, the prior art does not teach that the interface comprises a link properties page, wherein the link properties page is adapted to display a property associated with the selected graphical link indicia, and to allow the user to modify the property, as is expressed in claim 59.

As claims 60-63 and 66 are dependent upon allowed claim 59, and include all of the limitations of claim 59, claims 60-63 and 66 are allowed for the reasons in which claim 59 is allowed.

Claim 67, comprising subject matter from cancelled claim 69, is considered allowable for the reasons in which claim 69 was considered allowable, these reasons being expressed in the previous Office Action, mailed 12/18/2003. In particular, the prior art teaches a mapping tool graphical user interface comprising a source screen region, a target screen region, and a mapping screen region, implemented like described in the claim. The use of a function object pallet, such as a toolbar, is also understood to be taught by the prior art. However, the prior art does not teach the use of such a function object pallet in a mapping tool graphical user interface, where specifically, each of the

function objects may be dragged from the pallet onto the mapping screen region, as is expressed in claim 67.

As claims 68 and 70-76 are dependent upon allowed claim 67, and include all of the limitations of claim 67, claims 68 and 70-76 are allowed for the reasons in which claim 67 is allowed.

Claim 86 is allowed for the reasons in which claims 51 and 52 are allowed, as specified in the previous Office Action, mailed 12/18/2003.

As claims 88-91 are dependent upon allowed claim 86, and include all of the limitations of claim 86, claims 88-91 are allowed for the reasons in which claim 86 is allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blaine Basom whose telephone number is (703) 305-7694 prior to 10/20/2004, and (571) 272-4044 after 10/20/2004. The examiner can normally be reached on Monday through Friday, from 8:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (703) 308-3116 prior to 10/20/2004, and

(571) 272-4048 after 10/20/2004. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

btb

RAYMOND J. BAYERL
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